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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,680	10/17/2003	Chih-Yuan Chen	MTKP0089USA	2679
27765	7590	12/08/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			LAMB, CHRISTOPHER RAY	
			ART UNIT	PAPER NUMBER
			2627	
DATE MAILED: 12/08/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7, 8, 10, 11, 13-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe (US 2002/0018419) in view of Kenjo (US 5,029,155; cited in prior Office Action).

Regarding claim 1:

Watabe discloses:

An optical disc recording apparatus comprising:

a laser diode driven according to a write strategy generator (paragraphs 17-21: the write strategy generator is not specifically disclosed, but it is inherent, since the laser diode is driven according to the described write strategy);

a photodiode for generating output voltage according to a sensed power of the light pulse (paragraph 17); and

an Endec controller, coupled to the write strategy generator, for generating an APC mode signal and a predefined NRZI pattern selected according to a relationship between recording speed and a bandwidth of the photodiode (paragraph 21).

Watabe does not disclose:

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that the laser diode is driven to generate a multi-pulse light pulse having a fixed duty ratio with two power levels during APC mode;

a signal processor for averaging the generated output voltage;

at least one sample and hold circuit coupled to the signal processor for sampling and holding the average generated output voltage according to a sample and hold signal;

wherein the power of the laser diode is controlled according to held average generated output voltage occurring during the APC mode.

Kenjo discloses:

a laser diode driven to generate a multi-pulse light pulse having a fixed duty ratio with two power levels during APC mode (column 10, lines 15-45);

a signal processor for averaging the generated output voltage (column 10, lines 15-45: integrating the monitor signal is equivalent to averaging it);

at least one sample and hold circuit coupled to the signal processor for sampling and holding the average generated output voltage according to the sample and hold signal (column 10, lines 15-45);

wherein the power of the laser diode is controlled according to held average generated output voltage during the APC mode (column 10, lines 15-45: see also the second embodiment).

Kenjo discloses that this allows setting a recording light level without requiring a high-speed signal processing system (column 2, lines 30-40).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Watabe the elements taught by Kenjo (as discussed above). The motivation would have been to be able to set the recording light level without requiring an expensive high-speed signal processing system.

Regarding claim 2:

In Watabe in view of Kenjo the signal processor for averaging the generated output voltage is a low pass filter (it is the sample & hold circuit: Kenjo, column 10, lines 15-35; earlier Kenjo discloses the sample & hold circuit may be a low-pass filter: column 6, lines 35-40).

Regarding claim 3:

The apparatus of Watabe in view of Kenjo further comprises a sample and hold signal generator connected to the Endec controller for generating a sample and hold signal when the average generated output voltage has substantially stabilized (Kenjo: column 10, lines 15-35).

Regarding claim 4:

The apparatus of Watabe in view of Kenjo further comprises at least one sample and hold circuit connected to the low-pass filter and to the sample and hold signal generator for sampling and holding the average generated output voltage according to the sample and hold signal (Kenjo taught the low-pass filter as discussed above; the rest of the sample and hold circuit was already present in Watabe: paragraph 21).

Regarding claim 7:

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In Watabe in view of Kenjo the fixed-duty ratio is less than one (Kenjo: column 10, lines 15-45).

Regarding claim 8:

In Watabe in view of Kenjo the Endec controller initiates the APC mode exclusively with predefined APC areas of the optical disc (it occurs in the recording mark portion: Kenjo, column 10, lines 15-45).

Regarding claims 10, 11, 13-15, and 17:

These are method claims containing steps performed by the apparatus of claims 1, 7, and 8, and are met when the apparatus operates.

3. Claims 9, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe in view of Kenjo as applied to the claims above, and further in view of Hsu et al (US 2005/0025018; cited in previous action).

Regarding claim 9:

Watabe in view of Kenjo discloses an optical disc recording apparatus as discussed above.

Watabe in view of Kenjo does not disclose wherein the laser diode utilizes a Blu-ray, rewriteable standard.

Hsu discloses a Blu-ray, rewriteable standard (paragraph 10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Watabe in view of Kenjo wherein the laser diode utilizes a Blu-ray, rewriteable standard, as taught by Hsu.

The motivation would have been to make the apparatus compatible with the blu-ray standard, expanding functionality.

Regarding claims 16 and 18-20:

All elements of these claims are present in Watabe in view of Kenjo and further in view of Hsu; see earlier rejections.

4. Claims 5, 6, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe in view of Kenjo as applied to the claims above, and further in view of Suzuki (US 6,744,031; cited in previous action).

Regarding claim 12:

Watabe in view of Kenjo discloses a method as discussed above.

Watabe in view of Kenjo discloses wherein the substantially averaged photodiode output voltage is compared to a target power for controlling the power of the laser diode (done in error correcting circuit of Kenjo 44).

Watabe in view of Kenjo does not disclose wherein the substantially averaged photodiode output voltage multiplied by the inverse of the fixed duty ratio is compared to a target power for controlling the power of the laser diode.

Suzuki discloses that when averaging a light pulse with a duty ratio the average power is equal to the target power multiplied by the duty ratio (column 4, lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Watabe in view of Kenjo wherein the substantially averaged photodiode output voltage multiplied by the inverse of the fixed duty ratio is compared to

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a target power for controlling the power of the laser diode (this is the inverse of the equation taught by Suzuki).

The motivation would have been to have the correct power .

Regarding claims 5-6:

They are met by the combination of Watabe in view of Kenjo, and further in view of Suzuki discussed above.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watabe in view of Kenjo and further in view of Hsu as applied to the claims above, and further in view of Suzuki.

Watabe in view of Kenjo, and further in view of Hsu, was discussed with regards to claim 19.

Watabe in view of Kenjo, and further in view of Hsu, does not disclose wherein the substantially averaged photodiode output voltage multiplied by the inverse of the fixed duty ratio is compared to a target power for controlling the power of the laser diode.

Suzuki discloses that when averaging a light pulse with a duty ratio the average power is equal to the target power multiplied by the duty ratio (column 4, lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Watabe in view of Kenjo, and further in view of Hsu, wherein the substantially averaged photodiode output voltage multiplied by the inverse of the fixed duty ratio is compared to a target power for controlling the power of the laser diode (this is the inverse of the equation taught by Suzuki).

The motivation would have been to have the correct power.

Response to Arguments

6. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

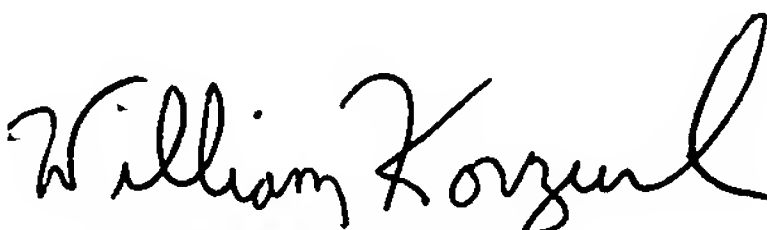
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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CRL 12/6/06


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